Observations and models of coronal heating M. Velli and F. Malara Universita' di Firenze; Universita' della Calabria

The theoretical basis and observational evidence for possible scenarios of coronal heating are reviewed, with particular emphasis on the interpretative uncertainties involved in the detection of low energy bursts, or nanoflares. From a theoretical point of view, it appears that the presence of complex topologies in the coronal magnetic field is crucial both both for the triggering of discrete small-scale events and efficient wave dissipation. At low energies, the distinction between AC/DC heating may be blurred, since the power output from dissipating waves or small scale current sheets can be bursty and intermittent. The interplay of these phenomena is discussed within the unifying framework of MHD turbulence, and the importance of progress in forward modelling from theories to observables in the understanding of sub-resolution physics is underlined. is underlined.